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ABSTRACT

Growing numbers of teachers are turning to cooperative learning methods for literacy instruction, yet recent studies suggest that teachers hold theories of cooperative learning which are unrelated, or even antithetical, to helping students learn to become strategic, independent readers. This paper reports on a study that examined seven teachers' thinking and its relation to classroom actions regarding the use of cooperative learning for literacy instruction in a bilingual elementary school. Data were collected from interviews with participants at the beginning and middle of the school year, classroom observations consisting of written fieldnotes describing instruction and the social context, post-lesson interviews with selected students, and educator-researcher staff development meetings. Findings indicated: (1) teachers' beliefs about teaching, literacy learning, and cooperative learning were compatible with a social constructivist learning perspective (Vygotsky, 1978), but were relatively inchoate; and (2) collaborative intervention guided by social constructivist learning theory (Vygotsky, 1978), can contribute to informed, collegial, and committed teacher innovation. Based on these results, the researchers worked with each teacher to develop instructional improvement agendas. An appendix provides sample responses of students' awareness of conditional knowledge. (Contains approximately 35 references.) (Author/LL)

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An Examination of Teacher Thinking During a Collaborative Effort to Improve Elementary Cooperative Learning Literacy Instruction

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Abstract

Growing numbers of teachers are turning to cooperative learning methods for literacy instruction, yet recent studies suggest that teachers hold theories of cooperative learning which are unrelated, or even antithetical, to helping students learn to become strategic, independent readers. This paper examines seven teachers' thinking and its relation to their classroom actions regarding the use of cooperative learning for literacy instruction in a bilingual elementary school during the 1992-93 school year. Participating teachers were interviewed extensively about their beliefs about teaching, learning, literacy, and cooperative learning at the beginning and middle of the school year. In addition, data are presented from: observations of classroom instruction consisting of written fieldnotes describing instruction and the social context, plus post-lesson interviews with selected students; and educator-researcher staff development meetings. Findings suggest that these teachers hold beliefs about teaching, learning, literacy learning and cooperative learning which are quite compatible with a social constructivist learning perspective (Vygotsky, 1978), but which are relatively inchoate. The research team has shared the following with the participating educators: research data and tentative findings; principles from explicit instruction (Paris, et al, 1983) and social constructivist theory (Vygotsky, 1978); and recommendations for instructional refinement. The researchers have collaborated with each teacher to develop instructional improvement agendas based on the first semester's data and theory. The prolonged data collection and trust-building process of the first semester was at first met by teacher frustration, but appeared to offer a stronger basis for eliciting their involvement and commitment to the change process. The remainder of the school year will consist of the research team supporting the teachers' innovations and providing feedback. These early results suggest that a collaborative intervention guided by social constructivist learning theory (Vygotsky, 1978) can contribute to informed, collegial and committed teacher innovation.

An Examination of Teacher Thinking During a Collaborative Effort to Improve Elementary Cooperative Learning Literacy Instruction[1]

Background

Implementation of research findings in classrooms is a notoriously difficult process, as it often conflicts with current practice and teacher conceptions about teaching and learning. Educational reform has been characterized by one-way transmission of research findings, teacher resistance, and haphazard program implementation (cf. Duffy and Roehler, 1986; Sarason, 1971). By contrast, Cohn and Kottkamp (1993), Richardson (1990) and Zumwalt (1986) argue that models of reform in which researchers collaborate with teachers are more likely to elicit a willingness to critically reflect on practice, as well as to identify contextually congruent reforms.

Richardson (1990) has recently reported on a reading instruction reform in which researchers serve as facilitators with groups of teachers to examine their teaching practices, explain their rationales for them, and identify useful theory and research. Richardson found her participating teachers to be quite open to change as long as the following conditions were met: the changes did not violate their beliefs about teaching and learning; the changes engaged students and provided the teachers with control over them; and the changes helped teachers respond to contextual demands, such as for high test scores. Good, McCaslin and Reys (1991) have begun reporting on a collaborative teacher-researcher reform project to develop mathematical problem-solving skills in small groups. The researchers are manipulating variables thought to affect group processes, such as group composition, but the teachers hold final say on all decisions in their classrooms on the premise that they are best able to analyze the contextual factors which affect their students' learning.

Cooperative learning is an extremely popular instructional approach which calls for students to work in small groups on their academic tasks with little or no direct teacher supervision (cf., Bossert, 1989; Johnson and Johnson, 1987; Slavin, 1983). However, despite the popularity of cooperative learning, little mention is made in the literature regarding the role that teacher thinking plays in the

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1 The authors wish to thank the students and educators of "Whitney Elementary School" who have generously agreed to participate in this project.

successful utilization of such techniques. Teacher conceptions are crucial for cooperative learning since these methods assume a radically different theory of teacher and student roles from traditional teacher-directed instruction. Growing numbers of teachers are turning to cooperative learning methods for literacy instruction, yet several recent studies have found teachers to hold theories of cooperative learning which are unrelated, or even antithetical, to helping students learn to become strategic, independent readers. Palincsar, Stevens and Gavelek (1989; Palincsar & Brown) maintain that a social constructivist stance on learning (Vygotsky, 1978) is essential for a teacher to establish a context in which students work effectively in groups to share knowledge and strategies for reading comprehension. They maintain that students must verbalize their thinking about text and stimulate and challenge each other's thinking in order to reap the substantial benefits of peer collaboration for literacy learning. Instead, however, these authors found "knowledge transmission" conceptions of teaching and learning to predominate among teachers with whom they worked. Meloth and Sanders (1991) found both pre-service and experienced teachers to focus on social skills rather than academic learning in cooperative learning. Either of these stances on cooperative learning, as a knowledge transmission device or as a social skills development tool, mitigates against teachers helping students to focus on sharing ideas, information and strategies for reading comprehension and enjoyment.

The mainstream cooperative learning approaches (e.g., Johnson and Johnson, 1987; Slavin, 1988) provide generic procedures designed to manage students' behavior and relations in groups, but do not directly address the issue of quality group tasks and discussions, particularly for reading instruction. However, Paris, et al (1983) and Duffy, et al (1987) have established that instruction that specifically addresses declarative knowledge (what is being learned), procedural knowledge (how to do what is being learned), and conditional knowledge (why/when to use what is being learned) contributes to students' independent, flexible, and effective use of reading comprehension strategies. Recent work by Meloth and Deering (1992, under review) has begun to apply these findings to literacy instruction with a task-oriented cooperative learning approach that emphasizes discussion of declarative, procedural and conditional knowledge of reading comprehension. In comparisons with a popular cooperative learning approach that emphasizes group rewards for individuals' reading comprehension quiz scores (Slavin, 1990), Meloth and Deering found the task-oriented approach to

contribute to: higher amounts of talk about facts, concepts and strategies associated with reading comprehension, and a greater degree of student reporting of metacognitive knowledge (1992, under review); and greater gains on measures of reading comprehension and metacognition (1992). Webb's (1989) work also suggests that students' sharing their thinking about problem solving will contribute to greater gains in learning, at least for those who do the verbalizing.

The work of Paris et al (1983), Duffy, et al (1987), Meloth and Deering (1992, under review) and Webb (1989) offers clear guidelines for improving classroom practice in reading instruction. However, the school reform and teacher-thinking research cautions against a simple dissemination and implementation model. Therefore, a collaborative effort, known as the Cooperative Reading Project (CRP), is being utilized for working *with* experienced teachers, rather than *on* them, to examine and stimulate their thinking about cooperative learning literacy instruction. The main intent is to provide teachers with two types of support from the research team: data and feedback from our observations of their instruction; and information regarding principles of explicit instruction (Paris et al, 1983; Duffy, et al, 1987) and social constructivist learning theory (Meloth & Deering, 1992, under review; Palincsar & Brown, 1984; Vygotsky, 1978). In addition, it was anticipated that the teachers and researchers would identify other areas of interest as the study progressed. Critical reflection, and modifications of cooperative learning are being encouraged in this project, an approach which contrasts markedly with the simplistic, recipe orientation of many cooperative learning trainers and practitioners (Sapon-Shevin & Schniedewind, 1991).

The CRP's process of teachers' reflection upon, and articulation of, their roles in cooperative learning will provide theoretical insight into the critical area of teacher thinking regarding cooperative learning in literacy instruction. In addition, this project encourages the participating teachers to take a more thoughtful approach to their profession generally.

Methods

Participants

Phase One of the Cooperative Reading Project is taking place at Whitney Elementary School,[2] a bilingual school located in a low-income, Western, urban area. The student body is 75% Latino (predominantly Mexican American), with most of the remainder Caucasian; 40% of the students qualify for federal lunch support; 20% of the students have limited English proficiency, speaking Spanish as their primary language.

We had originally intended to focus this study on instruction in grades four and five. However, we selected this school and the diverse range of participants (Table 1) for several reasons. For one, promotion of collaboration among participating educators was expected to be much easier within a single building rather than across several schools. Additionally, there was a great deal of enthusiasm for innovation and change at Whitney, as Dr. Lorenzo and these teachers responded quickly and emphatically to our solicitation for project participants. Hence, we believed that this site would allow us to focus intensely on contextual congruity and support in staff development, thus enhancing the project's immediate and long-term impact.

Table 1
Participating Educators

Principal	Dr. Jane Lorenzo
First-Second Grade, Bilingual, Combined Classrooms	Dana Franz Brenda Ramirez(1)
First-Second Grade, Bilingual, Combined Classrooms	Nora Marvin(1) Doris Torrelli
Third-Grade, Bilingual	Frances Sampson
Fourth-Fifth Grade, Language Arts/Social Studies	Linda Chandler(2)
Fourth-Fifth Grade, Language Arts/Social Studies	Tina Harris

Note: (1) = Latina (2) = African American Others are Caucasian

The first-second grade classrooms are double-sized rooms that had their adjoining walls removed this past summer so that teachers could collaborate more effectively. The two fourth-fifth grade teachers work with partners who teach math and science, and as part of a larger fourth-fifth team which coordinates curriculum and policies; these teaming structures are also new.

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2 All names relating to the research site are pseudonyms.

The CRP research team consists of three persons, all of whom speak some Spanish (ranging from beginner to functional), and all of whom are former classroom teachers. Paul Deering and Michael Meloth are assistant professors of education, and Adele Sanders is an advanced doctoral student in education who is working as a research assistant.

Procedures

The Cooperative Reading Project is developing a cooperative learning staff development program based on social constructivist learning theory (Vygotsky, 1978) and our own recent research (Meloth & Deering, 1992, under review). Phase One is taking place during the 1992-93 school year. This phase consists of a long-term, intensive collaboration with the Whitney Elementary School educators to examine and improve upon their use of cooperative learning literacy instruction. Phase Two will take place during the 1993-94 school year, and will consist of a broader test of the findings from Phase One -- a one-semester quasi-experimental study in several elementary schools comparing two contrasting approaches to cooperative learning literacy instruction. This paper will report findings from: Phase One-A (first semester, 1992-93), an open-ended inquiry into teachers' beliefs regarding teaching and learning, and the relation of those beliefs to their instruction and students' verbal reports of learning; and the beginning of Phase One-B (second semester, 1992-93), which consists of sharing findings from Phase One-A with the teachers, introducing them to concepts from social constructivist learning theory and instructional research, and collaborating with them to develop and implement agendas for instructional improvement.

Each phase of the CRP will include collaborative staff development meetings; lesson observations; interviews with teachers and students; and assessment of student attitudes and learning. All project communication and procedures are being presented in both Spanish and English as needed. The following data were analyzed for this paper: written fieldnotes from observations of literacy instruction; teachers' pre- and mid-program interviews; fieldnotes from educator-researcher staff development meetings; and student post-lesson interviews.

Observations

Each classroom has been observed from four to ten times to date during cooperative learning literacy instruction. The great variation is due to contextual factors such as teacher absences, and one of the teachers serving as acting assistant principal for several months. Observations consist of pre- and post-lesson interviews with the teachers, post-lesson interviews with students, written field notes describing instruction and the social context, and audio-taping of the teacher's verbal communication and that of a selected student group (see below for details).

Staff Development Meetings

Two types of collaborative staff development meetings are being held. Both types of meetings offer the educators information about instructional practices and student learning, plus insight and support for professional innovation in the local context. In addition, these meetings serve as a window on the educators' thinking about instructional refinement.

Peer support meetings. Participating educators are meeting weekly with one or more colleagues for approximately one-half hour in peer support meetings to share insights regarding cooperative learning literacy instruction, and to support each other's continued innovation. The participants record a brief, written account of the topics raised at each meeting. These accounts are subsequently presented to the principal for her comments and insights, and then to the research team for analysis.

Educator-researcher meetings. The second type of meeting, educator-researcher meetings, occur approximately every six weeks, and involve the research team and the participating educators. These meetings consist of a combination of sharing of information about successful and unsuccessful classroom strategies by the educators, plus presentation of information by the researchers. Presentation by the researchers has consisted of two types of information -- observational data and tentative findings; and theory and research. Observational data has consisted of fieldnotes from lesson observations; summaries of lesson observations and of teachers' pre-program interviews; and transcripts and summaries of students' post-lesson interviews (see below). Information on theory and research has focused on applying principles of direct instruction (Murphy,

et al, 1987), cooperative learning (Kagan, 1985), explicit instruction (Duffy, et al, 1987; Meloth & Deering 1992, under review), and social constructivist learning theory (Meloth & Deering 1992, under review; Palincsar & Brown, 1984; Vygotsky, 1978), plus information relating to other areas of interest identified by the teachers. A researcher has recorded field notes regarding the concerns and interests raised at each meeting.

Interviews

Teacher Interviews. Teachers have completed pre- and mid-program interviews using a modification of Meloth & Sanders' (1991) teacher interview instrument, and will complete a similar interview at the end of the school year. Questions concern teachers' beliefs about the benefits of cooperative learning, their theories of how it works, and its appropriateness in their professional contexts. The mid-program interviews also included the development of an instructional improvement agenda: a) each teacher was asked to consider a couple areas for instructional refinement; b) feedback was provided from the CRP team on the teacher's instructional strengths, and possible areas for refinement; c) each teacher selected two or three refinement goals on which to focus in subsequent instruction. Teachers are also participating in brief, pre- and post-lesson interviews focusing on their lesson goals, activities and assessments (these data are not yet ready for analysis).

Student Interviews. Two randomly-selected student participants are being interviewed individually after each observed lesson using a modification of Meloth and Deering's (1992) student interview instrument. Questions focus on the students' awareness of lesson content and goals, and their perceptions of cooperative learning. Students' awareness of conditional knowledge is being rated low, medium or high, using procedures from Meloth and Deering (1992; see Appendix 1).

Instrumentation

All participating students will complete a pre-, mid- and post-program written assessment of literacy strategy use and motivational orientation, the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich and DeGroot, 1990). Three levels of the MSLQ are being used -- primary, third grade, and fourth-fifth grade.

Data Analysis

Qualitative data are being read and re-read to identify salient patterns and themes, as with ethnographic analysis, although this is not a culturally-based study (Spindler, 1982; Erickson, 1986). Our assumption that we researchers would be ignorant about much of the teachers' professional context, and our desire to be sensitive to that, compelled us to choose a fairly open-ended method of analysis. Deductive analysis is being applied using *a priori* concepts our own theoretical orientation, particularly social constructivist learning theory (Vygotsky, 1978) and the other instructional research literature cited (e.g., Meloth & Deering, 1992; Murphy, et al, 1987; Palincsar, et al, 1989); in addition, we are searching for emergent concepts via inductive analysis (Goetz & LeCompte, 1984).

Data from the MSLQ will be analyzed using repeated measures analysis of variance procedures. Alpha will be set at .05 for all statistical tests.

Internal validity has been sought by regularly checking the accuracy of data and tentative assertions about them with the participating educators. We provided the teachers with copies of their pre-program interview transcripts, and have provided them with copies of observation field notes and student post-lesson interviews on an ongoing basis. In addition, we have met with them three times as a group, and once individually, to share tentative findings and solicit their reactions to them.

For this paper, the unit of analysis is both the group of teachers, as well as the individual. The rationale for the group as a unit of analysis is that teacher collaboration is being actively promoted by the CRP staff, and also pre-existed this project, thus giving these individuals some semblance of a collective identity. In addition, two individual teachers are offered as cases to illuminate some of the individual variation that exists within this professional context and group.

Findings

Findings will be presented first in terms of the teachers' general beliefs, as ascertained from their pre-program interviews. This is followed by findings from the instructional contexts, the student interviews, and finally from the educator-researcher meetings.

Teacher Beliefs

The teachers' descriptions of teaching and learning were highly intertwined with each other, and interestingly, with their descriptions of literacy learning as well. For that reason these data are presented together (Table 2). The teachers were strongly oriented toward positive affect and motivation, with all but Brenda mentioning one or both of these items. The strongest theme throughout the teachers' stated beliefs was the necessity of engaging students in meaningful, authentic tasks, as each of them stressed this quality at least once. Dana's comments typify the teachers' orientation toward task authenticity, as well as their view that teaching, learning and literacy learning were inseparable:

> I think good teaching is using authentic experiences to teach the children to read and write. Teaching reading and writing as one process, not, you know, reading in the morning and writing in the afternoon, but reading and writing all day long. And using things that the kids are interested in doing....I think good learning is a result of being provided a lot of opportunities, to practice reading and writing, in natural, not in contrived situations....I think, to me, an authentic situation is something that is meaningful to the kids....Like for instance, in their writing, they write books about things that are important to them, and then we use that for our spelling -- it's a natural and authentic approach to spelling. (CRP, 9/92)

The teachers were correspondingly disinclined to focus on isolated skills and mechanics, or extrinsic motivation for literacy learning, with only two of them mentioning such features. This interest in task authenticity extended to the their endorsement of students engaging in learning as an active and enjoyable process; creating and using their own text; learning to read at their own pace and level; and having frequent opportunities to develop proficiency with oral and written language. Tina shared only the orientation to active learning and task authenticity with her colleagues. Instead, she emphasized the need for phonics instruction, skill development, spelling practice, and teaching to the district's criterion-referenced skills tests (CRT) and the CTBS. Several notable areas in which only one or two of the teachers expressed interest were modeling, emphasizing thinking processes and skills, and maximizing student success.

Table 2
Teachers' Descriptions of Good Teaching; Good Learning; and Literacy Learning

Items with 3+ Responses	Teacher						
	Franz	Ramirez	Marvin	Torrelli	Sampson	Chandler	Harris
Authentic Tasks	X	X	X	X	X	X	X
Positive Affective Climate Touch All	X		X	X	X	X	X
Repetition/Practice	X	X	X	X	X	X	
Oral Language Development	X	X	X	X	X	X	
Text Immersion	X	X	X	X			
Active Learning		X		X		X	X
Students Love Learning	X			X	X	X	
Developmental Process Readiness Necessary	X	X	X	X			
Create, Use, Share Text	X		X		X		
Student Sharing					X	X	X
Students Learn 3R's		X			X		X
Individualization		X	X				X

The teachers' beliefs about cooperative or collaborative learning were quite well-articulated regarding roles and benefits for students (Table 3). Doris's comments were typical of the group's belief that students can teach and learn from each other:

> Well, when I graduated from college I felt that I was going to be the one who would answer all the questions. I assumed that. You know how fast that notion got deflated. And I just felt like I couldn't do it all by myself. I always felt that you had to learn from each other, and I think it was brought home to me more in this school because I came in as not a native Spanish speaker...there was so much to learn, and who do you think I learned from, but the kids....there's not one teacher in here, or two, we have forty-five, and kids do learn from each other, and that's the way it ought to be....I didn't consciously say one day, "I need to have these kids cooperate." I saw it and it was working, and usually when something goes for me in a class, it's usually, it'll start with two kids and they'll do something so great here that I say, "Well, gee, now why not do more of this?" (CRP, 9/92)

All four primary grades teachers also noted that collaboration provides students with the opportunity to read together, an activity which they believed the students enjoyed, and which was beneficial to their literacy learning. Providing students with opportunity to be exposed to different language proficiencies, whether different levels of one's primary language or second language was also a strong interest. The four primary classroom teachers noted that peer collaboration is especially appropriate for their mixed-age students, as the younger ones can learn from the older, more proficient readers. Student enjoyment and social skills development were notably underrepresented as motivations for using cooperative groups. Opportunity for peer modelling in student groups, peer-conferencing, high quality tasks, and sharing of thinking about text were also low in frequency of response.

Table 3
Teachers' Reasons for and Considerations About Using Cooperative Learning

Responses	Teacher						
	Franz	Ramirez	Marvin	Torrelli	Sampson	Chandler	Harris
Students can teach each other	X	X	X	X	X	X	X
Students can learn from each other	X	X	X	X	X	X	X
Opportunity to mix students by academic ability, age, language proficiency, grade	X	X	X	X			X
Opportunity for students to read together	X		X	X	X		
Allows teacher to give individual attention	X	X					X
Means to follow up direct teacher lesson		X			X		X
Students can talk about reading	X			X	X	X	
Develop social skills	X						X
Student modeling and imitation				X	X		
Peer feedback/conferences				X	X		
Students enjoy group work						X	
High quality tasks necessary					X		

The teachers' beliefs about their own roles for cooperative learning were noticeably less explicit than for students. Each teacher offered only one to three possible roles for herself, versus a range of from four to eight benefits of cooperative learning for students. The modal responses (n=3) for the teachers' roles were sharing ideas with student groups, and promoting helping, cooperation or

discussion among group members. Teacher roles with one or two responses included establishing a task structure, monitoring student behavior, checking interest, and making sure that teacher interactions with groups were brief and involved minimal giving of information.

Teachers' were asked about the significance of the ethnic and linguistic distribution of their students in terms of teaching and learning in their classrooms. Six of the seven noted that they use a variety of grouping schemes for peer collaboration, from heterogeneous to homogeneous, by language, grade and achievement level. They explained these varied approaches as allowing for sharing of ideas, including language, across demographic and ability groups; development of positive social relations across demographic and ability groups; plus, providing students with opportunities to interact with like peers as needed. Brenda elaborated on some of these grouping schemes and their benefits:

> Well, when we did our dinosaur unit, we did mix across language, which was kind of interesting, because one day they were writing in Spanish, and the next day they were writing in English. It was really interesting. I was really amazed at how much they really enjoyed doing that. They're really picking up the language from the other students....they were helping each other out, and helping each other write this last time. I mean, now that we're doing Africa, we have them divided up into animals. There's nine different animals, so the Spanish -- there's three groups -- the Spanish group is divided up into three different groups and they're all together....I'm not sure which one will work better, but we're just trying it.
> (CRP, 9/92)

As noted, all of the bilingual teachers explained that academic lessons are first presented in the students' primary language. All but two of the teachers noted that she tries to include elements of the students' culture within curriculum.

Only two of the teachers, the 4th-5th grade teachers, spoke in terms of the students' limitations. Linda noted that her students are unlikely to come to school "enriched" in terms of vocabulary and life experiences, and that she tries to address this. However, she also noted that her students may have knowledge that middle class suburbanites do not:

> And too, you might say too, that maybe these kids might be enriched in some areas, where in the other areas those kids (suburbanites) might not be enriched....Okay, we were talking about the mortar and the pestle, and they, the mortar and the pestle, and George Washington Carver used it to make peanut butter. Well, the Spanish used it to grind up chili. They still have a mortar and pestle...they know what a mortar and pestle is, but they don't call it that. They call it something else....what I'm, when I say that, that's what I mean, teaching them their culture, that's what I'm saying that, with this type, that's the way I have to go with that.
> (CRP, 9/92)

Linda also noted that by her being a member of a minority and growing up in poverty, she was better able to understand her students and serve as a positive role model for them. She said that she gets highly involved with students' families as a result. By contrast, Tina spoke of her general frustration with her professional context and her students, regardless of their ethnicity:

> They're all inner city students [where I taught in another district] and they all basically have the same kinds of problems [as Whitney students], and plus the class size is also huge [here] too....Mainly, we have a lot of children that are just totally out of control. You saw the little guy walking out. You know, I mean, the public schools accept these "little darlings" and you just work with what you have. (CRP, 9/92)

We also asked the teachers about their professional strengths and weaknesses, and what they hoped to gain from participating in the CRP. Providing a warm affective climate, and teaching reading were the modal teacher strengths, with four teachers each. Areas mentioned by three teachers included a sense of fun, classroom management, organization, and teaching writing. Traits with one or two responses included: social skills training; creativity; planning; knowledge of Spanish language and culture; education; involvement with students' families; and understanding the local working class population. Teachers were considerably less detailed about their limitations, with a range of zero to four items mentioned, compared with three to six for strengths. Among limitations mentioned by teachers were organization (3); teaching writing (2); frustration with limitations of the students and/or the professional context (2); and one response each for cooperative learning knowledge, science teaching, and Spanish language proficiency. Teachers were more prolific in their mention of their goals for participation in the CRP: learning about cooperative learning generally (5); assessing their own teaching and identifying weaknesses (4); learning how to have students teach each other (3); learning how to build confidence or motivation in students (3). Project goals mentioned by just one or two teachers included: learning about group dynamics; linking cooperative learning with literacy; participating in sharing about teaching; and participating in a research project.

Instructional Contexts

Whole School and Team-Level

There is a great deal of change occurring at Whitney Elementary this year, a trend which was initiated with Dr. Lorenzo's arrival as principal last year. Besides the school's involvement with the

CRP, various Whitney teachers are working with outside programs on writing instruction, integration of the fine arts into the general curriculum, conflict resolution, and incorporation of computers into classroom instruction. Coupled with the new approaches to teaming mentioned earlier, these innovations have contributed to a professional context that is in a state of flux. One apparent effect of these contextual factors on the CRP is that teachers have been very sensitive to our requests for their time. They were at first reluctant to participate in the staff development meetings, even though they commented about how valuable they found them. All were highly remiss at recording brief weekly accounts of their peer support meetings until we enlisted Dr. Lorenzo as a reader of them in January, 1993.

First-Second Grade Instructional Contexts

Much of the instruction in both of the combined-room, bilingual, first-second grade classes has focused around thematic units which the four teachers plan jointly. Themes have included dinosaurs, Kenya/Africa, Japan and Mexico. Most classroom activities -- whether primarily oriented toward literacy learning, artistic skills, music, etc., have focused on the thematic content. Both classrooms structured their literacy instruction similarly throughout much of fall, 1992: 1) silent reading; 2) morning-opening rituals, including calendar skills, math skills, songs and chants, and story reading, all of which are conducted on alternating days in Spanish and English; 3) direct reading instruction with ability-heterogeneous groups of 15 students, led by the two teachers plus a paraprofessional; one group is conducted in Spanish; groups rotate across instructors weekly; 4) direct reading instruction (in students' dominant language) with ability-homogeneous groups of approximately 5 students from the groups of 15; meanwhile, other students work independently at writing in literature logs, or at learning stations which focus on art, listening to tapes of stories, literacy comprehension, word recognition, spelling and other skills; collaboration is permitted and encouraged throughout the independent activities.

Dana Franz and Brenda Ramirez' Combined Classroom

Dana and Brenda's classroom is a delightful place to be. The affective tone is consistently warm and positive. Students are eager to share their literature logs and books with visitors, even if they can only invent the text. In December, 1992, these teachers restructured their literacy program from the instructional format described above, to a readers workshop approach, a move which was followed several months later by the other first-second grade class. Dana explained that they found the rotating groups system frustrating because they would work with fifteen children for a week, then not see them for two weeks. This time lapse caused the teachers to lose track of the students' literacy levels and needs. Dana and Brenda both noted that their students are showing far greater enthusiasm for the self-selected books which they are reading under the readers workshop approach, than for the prior, thematic, teacher-selected materials.

Under the small reading group approach, Dana and Brenda would usually teach a direct literacy lesson to their small groups, have these students engage in a brief, collaborative follow-up activity, and then dismiss them to work at learning stations. They would occasionally leave their reading groups to circulate about the room and check on students' progress at the learning stations. Activities within this classroom usually have followed the content theme, have been procedurally clear, and have promoted enjoyment and thinking about reading and writing. Transitions from one activity to another have been quick and smooth.

Under the new readers workshop approach, students select five books to read weekly; the large number of books is due to the brevity of so many of them. The two teachers and the paraprofessional circulate throughout the classroom during reading time conducting individual and small group reading conferences with the students to support their comprehension of their books and to assess progress. Each teacher now focuses only on the students in her own classroom with the paraprofessional rotating across both rooms. The teachers still conduct skill lessons, but now this is done with varied configurations of students based on need. An additional feature of the new classroom structure is that students work in ability- and demographically-heterogeneous teams of three or four on weekly classroom tasks. These tasks include caring for the plants, serving as

librarians, and conducting surveys within the class on topics of interest. Each team reports on its findings and progress weekly.

Dana Franz. Dana taught bilingual first grade for five years before switching to the mixed-age bilingual classroom this year. She is not a native Spanish speaker yet functions adequately in the language during her instruction and in conversations with students.

Dana brings a great deal of enthusiasm to all that she does, reading stories and leading songs with great expressiveness, and responding to children's concerns with sincerity and hugs. She is consistently positive with the students, emphasizing that which she believes that they can and should do, whether completing academic tasks or behaving appropriately. However, Dana struggles somewhat with classroom management. She frequently reprimands the whole class or groups of children for being too noisy. Her style in doing so is usually to emphasize the need for the student(s) to choose appropriate behavior and take responsibility for their actions. After three such reprimands during a class session she typically has the students put their heads down for a minute or two to calm down "and to think about how you should behave."

Dana's direct instruction in literacy typically includes a mini-lesson on such topics as rhyming words, word recognition, prediction, fluent oral reading, listening for detail, and the use of illustrations to aid comprehension. She usually includes a task as a follow-up to this instruction in which the students may or must collaborate. Dana's collaborative tasks have usually been sufficiently complex and demanding to provide students impetus to work together at some length to complete them, usually for ten-plus minutes. In one case Dana's small reading group constructed timelines in pairs, listing and ordering key events from the story they had read. One pair in particular, a second grade Latino boy and a second grade Caucasian girl, engaged in a rich collaboration as they discussed their decisions at length and referred repeatedly to the text for verification. Another collaborative task which Dana had her students engage in was making posters of African towns and cities. She reviewed the characteristics of each before turning the students loose, and then circulated among the groups of three and four to check for accuracy, understanding and involvement. The children's drawings were detailed and quite accurate in their depictions of rural and urban African environments. On other occasions, her collaborative literacy tasks following her direct instruction were quite short

and simple, leaving the students with little on which to collaborate; one example was simply having the students read passages aloud with partners.

Third Grade/Frances Sampson

There are 23 students in Frances's class, seven of whom are in the bilingual program. Her approach to literacy instruction is much like that used by the primary classrooms during fall, 1992. The great majority of the morning is devoted to literacy learning in Frances's classroom. She conducts direct reading instruction with small groups during much of the morning while the rest of the class works independently and/or collaboratively on literature logs and reading follow-up activities. These small groups are ability-heterogeneous and language-homogeneous. The foci of Frances's teacher-directed literacy lessons and the students' collaborative tasks have all been primarily cognitive in nature, and oriented to higher level thinking rather than just procedural concerns. In addition, Frances has frequently modelled thinking strategies for students, such as how to approach an unknown word, or how to figure out the topic of a book.

Fourth-Fifth Grade Instructional Contexts

Whitney's new fourth-fifth grade program is designed to prepare students for the transition to middle school. Middle school-like elements include students having one teacher for language arts/social studies and another for math/science; and whole-team planning for integrated curriculum and student supervision.

Both Tina and Linda have very challenging groups of pre-adolescents, with several students identified as Attention-Deficit Disorder (ADD) or Emotionally and Behaviorally Disturbed (EBD) in each of their classes. The special education teacher comes to each classroom to offer support to her students for approximately one hour each morning.

Tina Harris. Tina is a seventeen year veteran educator with experience in several school districts, including one in an upscale East Coast community. Tina is involved with the arts integration project and a conflict resolution project in addition to the CRP this year.

Tina has had her room arranged several different ways to date, in each case, with student desks together in table groups of varying sizes, and always with one or more student desks separate from the rest for "students who just won't work with others." Tina's class has increased in number from 26 students to 32 this year. There are a few more fourth graders than fifth graders in the mix, and about two-thirds of the students are Latino. The 4th-5th team did some reassignment of students so that Tina now has fewer special education and "problem" students in her morning class (the one we observe), making this group much easier to manage.

Tina begins each day with seatwork consisting of worksheets requiring handwriting practice coupled with procedural items related to writing mechanics or social studies knowledge. Teacher-directed whole class lessons have included viewing and and discussing a video on parts of speech; recitation/guided practice on labelling parts of speech in sentences; and explanation on how to organize stories using idea webs. Independent and/or collaborative academic tasks have included working at stations to play geography computer simulations, make Native American clay figures, answer worksheet questions about maps; making and labeling globes with partners; listing parts of speech in small groups; completing map/globe worksheets with partners; and constructing a turkey from a pine cone and then writing a story about it with a partner. Each of the observed teacher- and student-directed tasks was primarily procedural in nature, with little cognitive demand to them, with the exception of writing the story about the turkey. A concern of the CRP team with these academic tasks was their minimal relation to literacy. No attention to comprehending written text was detected at any time during six observations over the fall. Only tangential attention to writing meaningful text was noted in the focus on parts of speech and the story webbing.

Things have often been hectic in Tina's classroom. She has provided extensive blocks of time for her students to complete tasks collaboratively, up to ninety minutes in some cases. During some of these lessons, students have wandered around the room disrupting classmates for much of the time. In an early observation Tina stayed primarily in front in the room, while in subsequent cases she circulated widely, occasionally reprimanding off-task students. Tina has provided more extensive opportunities for students to collaborate on academic tasks than any of her CRP colleagues, often providing long periods of time and requiring a single group product. Tina usually assigns students to

groups, and has used configurations of 2 to 6 in number. One of the most orderly group work lessons observed was one in which the students worked in pairs to answer simple map identification questions using globes; the small number of students per group and Tina's active involvement with them appeared to contribute to the relative calm.

Tina has often commented on her students' limitations. On numerous occasions she has referred to them as "little darlings" in a highly sarcastic manner, sometimes within their hearing. She has disparagingly compared her students numerous times to her more upscale prior students.

Student Awareness of Learning Goals

Analysis of students' post-lesson interviews to date has focused on their reports of conditional knowledge (when or why they would want to use what they are learning), and their liking for collaborative activities. However, an interesting trend presented itself regarding students' reports of declarative knowledge (what they were learning about), as they have fallen into two categories -- content and process. That is, students may report that they were learning about content such as Africa, maps, history, etc., or that they were learning about a process such as how to read, how to write a letter, or how to pronounce certain words.

Students' levels of reported conditional knowledge awareness were widely varied (Table 4).

Table 4
Students' Levels of Awareness of Conditional Knowledge from Post-Lesson Interviews, by Teacher

Teacher	Students' Conditional Knowledge Awareness Level		
	High	Medium	Low
Franz	1	2	2
Ramirez	2	1	1
Marvin	1	2	0
Torrelli	1	1	0
Sampson	4	2	4
Chandler	0	0	0
Harris	2	5	2
** Total	11	13	9

Appendix 1 presents examples of students' reports of when or why they would need to know about the lesson content they had studied immediately prior to the interview.

Students' reports of task structure preferences for their literacy activities favored cooperative versus individual tasks, but by only about a 2:1 margin. Twenty-four students reported a preference for cooperative tasks, eleven favored individual tasks, and one student was ambivalent.

Staff Development Meetings and Collaborative Intervention

The teachers were extremely remiss at completing weekly reports regarding their peer support meetings throughout the fall. They insisted that they talked with each other constantly about their teaching, but always forgot to complete the reports or were too busy to do them. Therefore, the CRP team enlisted Dr. Lorenzo as a part of this process. We asked her to read the teachers' reports and comment on them, and then return one copy of the report to the teachers and one to the research team.

This has contributed to a good response rate. However, we do not have such data from the fall so no such insight is available for this paper.

We have held three educator-researcher staff development meetings focused on substantive instructional issues, plus two others which were primarily administrative in nature. Each substantive meeting has been structured to allow for feedback from the teachers regarding the research procedures; sharing by the teachers regarding their successes and frustrations with cooperative literacy instruction; and sharing by the researchers regarding relevant research literature and/or data and tentative findings from this project.

The first educator-researcher meeting was held in early November. At this meeting the teachers talked at length about the difficulty of managing cooperative group instruction, particularly monitoring student progress and providing adequate structure for productive group discussions. Two of the teachers shared ideas about how to structure peer feedback. Another offered insight into teaching effective group behaviors. The research team shared basic information about instructional planning and delivery (Murphy, et al, 1987) focused on selecting instructional goals, and planning a coherent sequence of activities to address them. We selected this content after observing lessons in each classroom in which the lesson goals were not clear, and/or in which the various activities had little substantive or procedural consistency. As Cohen (1991) notes, cooperative learning is highly complex instruction and presupposes a minimum of organization and control before it can be successfully implemented. We also provided information on social skills development, specifically materials for discussing and improving small group process (Kagan, 1985) at the request of several of the teachers.

The second educator-researcher meeting was held in January, 1993, after the CRP team had conducted fairly extensive analysis of the first semester data. We presented the teachers with general feedback from our observations in all their classrooms including the data above on students' moderate levels of awareness of conditional knowledge and student preferences regarding group work. We also shared that we had seen numerous, but often very brief or unstructured, opportunities for student collaboration. Additionally, we noted that we had observed a wide variation in lesson foci ranging from cognitive (thinking and learning regarding new/different content); procedural (following set

steps to completion; Doyle, 1988); subject area content (a subset of cognitive -- focus on academic content with little or no relation to learning literacy skills or refining them); affective (feeling good; getting along with others). We also noted that we had seen management problems associated with a lack of teacher monitoring. The principal and teachers discussed the implications of these findings at length with the each other and the research team. They were particularly concerned about the lack of student awareness of conditional knowledge. The CRP staff offered the following general recommendations to the teachers which they might consider and respond to in their subsequent mid-program interviews: 1) utilize social constructivist concepts (sharing/modeling of thinking, especially regarding conditional knowledge; scaffolded discussion); 2) provide adequate time for rich collaborative discussions; 3) tie group collaboration directly to teacher-directed lesson preceding it; 4) move about room at least some of time during group work to monitor behavior and focus thinking/discussion.

One of the CRP team met subsequently with each teacher in the project to conduct the mid-program interview. The first half of this interview was based upon the pre-program interview and concerned teacher beliefs, while the second half focused on our mid-program findings regarding the teacher's instructional strengths, as well as areas to consider for refinement (Table 5). This feedback drew upon the literature on basic instructional practices (Murphy, et al, 1987), explicit instruction (Duffy, et al, 1987), and social constructivist learning (Meloth & Deering, 1992; Palincsar & Brown, 1984; Vygotsky, 1978) upon which this project is based. Prior to our sharing this feedback, each teacher was asked to identify areas on which she would like to focus her refinement efforts.

Table 5
CRP Mid-Program Feedback to Teachers

Strengths

Active teacher involvement with students during work time[1]
Adequate time and structuring for group activities
Consistency in classroom procedures[1]
Encouraging guidance without being overbearing
Energetic, enthusiastic attitude
Engaging, strategic literacy tasks[2]
Equal valuing of Spanish & English[2]
Frequent opportunities for peer collaboration[1,2]
Good clarity about procedures and thinking processes
Positive classroom behavior
Prepared for class[1]
Promotion of positive affect[1]
Reading and writing improvement emphasized
Rich academic tasks
Strong coherence to instruction;
Strong commitment to group learning and having students learn from each other[1]
Strong, integrated literacy curriculum[2]
Student effort and improvement encouraged and sought
Usually clear about why/when to use what learning[2]
Very positive classroom climate[2]
Very positive, dynamic classroom climate
Well-organized lesson components and activities

Possible Refinements

Choose academic tasks with more substance
Choose tasks with more direct focus on literacy[1]
Design activities so that children know they are expected to share ideas and knowledge in groups
Focus on students' capabilities instead of their limitations[1]
Increased teacher monitoring
Model ways for students to share and use knowledge in groups[2]
Provide time and tasks for students to engage in rich collaboration[2]
Re-emphasize lesson goal at conclusion
Stronger emphasis on conditional knowledge[2]
Tie group collaboration to teacher-directed lesson preceding it[2]
Try to reduce the number of behavior management interventions[2]
Use teacher & student modelling & discussion of thinking strategies

Note: (1) -- Tina Harris (4th-5th Grade) (2) -- Dana Franz (1st-2nd grade)

After viewing the CRP team's feedback, each teacher selected two or three goals from the various sources on which to focus her refinement efforts (Table 6).

Table 6
Teachers' Self-Selected Instructional Refinement Goals

Become familiar with Reciprocal Teaching
Choose tasks with more direct focus on literacy(1)
Design activities so that children know they are expected to share ideas and knowledge in groups
Emphasize "what," "how," and "why/when" for learning(1)
Emphasize the short-term why/when for learning(2)
Get all students involved in group discussions
Investigate cooperative learning strategies: how to; things to ask students in groups; information on grouping strategies; how to get students to express selves
Modeling collaborative interaction
Plan for re-emphasizing lesson goal at conclusion
Plan for stronger emphasis on why when to use learning
Promote sharing of thinking and ideas in groups
Provide more intentional time for collaboration(2)
Tie collaboration to teacher lesson

Note: (1) -- Tina Harris (4th-5th Grade) (2) -- Dana Franz (1st-2nd grade)

The teachers' chosen goals drew upon their own insights, the general CRP feedback to the whole group, and the individual feedback they received from the CRP interviewer. These mid-program interviews with the teachers lasted approximately one hour each. The tone of the sessions was generally very positive and collegial. The meeting with Tina was somewhat more tense than the others when the recommendation that she focus on students' capabilities instead of limitations was broached. She insisted that her comparison of her current students with prior, upscale students was a reflection of her high standards, and that she was unwilling to settle for less than the best that her students could produce.

Discussion

The CRP teachers expressed a strong belief that learning tasks should be "authentic," or entail content and activities of interest to the students. The concern for task authenticity contributed in part to the first-second grade teachers' decision to abandon their thematic curricular organization in favor of a demanding readers workshop approach to literacy instruction. Concern for authenticity was less apparent in the academic tasks of the 4th-5th grade classrooms which were primarily simple skills activities oriented to subject matter rather than literacy. Only Tina, among all the teachers, spoke of the importance of such a skill orientation, and of teaching to the district's criterion-referenced tests

(CRT). She noted in her mid-program interview that she believed that her students were lacking a foundation in grammar and mechanics and that she had therefore concentrated her instruction in those areas for the fall. Having since seen satisfactory results on a recent CRT, she was now prepared to focus more on comprehension and enjoyment of text, and on producing meaningful text. This statement was consistent with a recent instructional observation in her classroom in which the highly coherent lesson was oriented to writing interesting, meaningful stories.

The teachers' stated interest in promoting positive affect was quite consistent with their classroom contexts. Each of them engaged in informal interactions such as praising and encouraging students to promote positive affect. The primary teachers were all physically affectionate with their students as well. Several of the teachers, including Tina, also had formal structures for promoting self-esteem, such as by designating a student of the week. It is interesting, however, that the teachers' strong interest in affect was not a particularly significant factor in their endorsement of cooperative learning. This contrasts with Meloth and Sanders' (1991) findings that teachers were heavily oriented to social relations in their use of cooperative learning.

The CRP teachers' stated motivations for using cooperative learning appear to be quite compatible with a social constructivist perspective on learning (Palincsar, et al, 1989; Vygotsky, 1978). Their universal belief that students can both teach each other and learn from each other, as well as the more moderate support for students sharing reading and ideas about it, are all consistent with principles espoused by social constructivist group learning advocates (Meloth & Deering, 1992; Palincsar, et al, 1989). However, there were several shortcomings or inconsistencies in their enactment of these beliefs. For one, the teachers had relatively impoverished concepts of their own role in promoting such positive group learning experiences for their students. Consistent with much of the cooperative learning literature (e.g., Johnson & Johnson, 1987; Slavin, 1988), they said little about the need for cognitively rich tasks for student group work, or about how the teacher might promote productive group discussions. This was consistent with the frequent cognitively simple tasks, such as reading aloud or filling out worksheets together, and the lack of teacher modeling of thinking strategies and promotion of such discussion. Additionally, the teachers did not emphasize coherence between teacher-directed portions of lesson sequences and the the group work portions.

This lack of instructional coherence prompted the CRP team to share basic instructional principles (Murphy, et al, 1987) with the teachers in the first educator-researcher staff development meeting, and to offer more refined and detailed ideas on how provide instructional coherence and rich collaborative tasks based on explicit instruction (Duffy, et al, 1987) and social constructivist group learning (Meloth & Deering, 1992; Palincsar & Brown, 1984). In particular, we emphasized the importance of teacher modeling of thinking strategies, and cognitively demanding group tasks which draw directly upon the preceding teacher lesson. Additionally, we suggested that the teachers make conditional knowledge regarding such tasks explicit in their teaching, either by stating the why/when themselves or by asking the students to do so. We expect that such explicitness will help the students make use of their learning more flexibly and effectively (Paris, et al, 1983) and that it will encourage the teachers to reflect on their own rationales for presenting particular lessons. We planned such a lesson sequence with the teachers as a group in the most recent staff development meeting. The lesson began with teacher modeling of book selection strategies and gradually shifted this task to students working with partners. The transition from teacher to student direction was scaffolded with intermediate steps of student modeling and guided practice, somewhat similar to reciprocal teaching (Palincsar & Brown, 1984).

The teachers' stated beliefs about how to group students were quite interesting. While most spoke of the importance of heterogeneous grouping to promote sharing of information and to facilitate positive relations, they were not exclusive about such a grouping scheme. Each teacher spoke in terms of flexible grouping schemes to promote different kinds of social/affective or cognitive goals. Ability- and demographically-heterogeneous groups are associated with the development of positive inter-group relations (cf., Slavin, 1983). However, broadly ability-heterogeneous groups are also associated with lower achievement by middle-ability students (Webb, 1989), and gender-heterogeneous groups are associated with undesirable group processes and learning outcomes for girls (Webb, 1984). Therefore, the teachers' flexibility in grouping schemes allows promotion of varied positive processes and outcomes without locking into the shortcomings associated with particular groupings. These points were shared with the teachers in the mid-program staff development meeting, and they were encouraged to continue with their flexibility in grouping.

For each teacher, the social context of Whitney School was a highly salient factor in instruction and planning. The primary classrooms were quite consistent with much of the current thinking on bilingual/multicultural education in their presentation of academic content in the students' native language, their provision of numerous opportunities to use both languages in meaningful contexts, and in their equal valuing of Spanish and English (cf., Cummins, 1986; Padilla, et al, 1990). Additionally, the majority of teachers' endorsement of cultural inclusion in curriculum, and family involvement are other factors consistent with current literature on multicultural education (cf., Cummins, 1986; Sleeter & Grant 1991; Padilla, Fairchild & Valadez, 1990). Hence, the CRP feedback to the teachers in these areas was essentially, to keep up the good work. As noted, only in the case of Tina did we encounter what appeared to be a strong cultural deficit orientation toward the students, primarily in terms of their socioeconomic status rather than their ethnicity. We felt compelled to address this with her based on teacher expectations research which suggests that teachers are likely to elicit that which they expect from their students (Good, 1987). Tina's explanations of her high expectations for her students and that she was holding them to the same standards as her more upscale prior students were reasonably plausible. We were therefore content to simply raise the issue for consideration and give her the benefit of the doubt, as was our policy regarding all teacher feedback.

The two teacher cases and the more general data presented here demonstrate that we are working with a broad range of educators in this project, in terms of beliefs and professional sophistication. All of the teachers are highly dedicated, putting in long hours beyond the regular work day, and all volunteered to participate in this demanding and potentially threatening project. The teachers' willingness to participate in the CRP suggests a strong sense of professional dedication and belief in their competence. We have strived as a research team to work with the teachers as respected colleagues, and to encourage them to take the initiative in identifying and pursuing agendas for improvement. Our role has been to provide a separate set of eyes and ears for the teachers and to offer them insights from relevant research and theory (Richardson, 1990). Such a stance is consistent with Cohn and Kottkamp's (1993) call for bringing the teachers' "missing voice" back into the educational reform and research process. Our reticence to immediately give advice was met with

uneasiness by the teachers, as such a nondirective relationship with "experts" was foreign to them. However, we believe that we developed a level of trust and understanding with them by our prolonged data-gathering in Phase One-A so that the agenda setting of Phase One-B was a far more collaborative and open process than would otherwise have been the case. The teachers' lack of strong, prior conceptions about cooperative learning probably has also probably contributed to their willingness to consider our less mainstream ideas than would be the case if they had had extensive, recipe-oriented training in cooperative learning (Sapon-Shevin & Schniedewind, 1991). Additionally, our mere presence and our providing the teachers with raw data and synopses of it has promoted considerable teacher reflection. Doris's comments support this contention: "You know, I'm really starting to pay attention to what the kids do when they work together! They really *teach* each other! I never noticed how much they do that before!" (CRP, 12/92).

Our work with the CRP teachers suggests that a highly productive stance on teacher improvement is to adopt the same social constructivist learning perspective (Vygotsky, 1978) that we are promoting for classroom use. By engaging in collaborative dialogues with the teachers about their instruction, and scaffolding such discussions with relevant research and theory, we have been able to promote a high degree of reflection and sharing of thinking among the participants. Another scaffolding feature is that in both our group and individual feedback, we have tried to emphasize strengths, and to provide only moderate amounts of critique so that we do not overwhelm the teachers or dampen their enthusiasm. Perhaps most importantly, however, the teachers own their improvement agendas, and are thus, much more likely to pursue them with commitment (Richardson, 1990; Zumwalt, 1986). Whitney Elementary School is becoming more and more a place of learning for the educators, in addition to the students (Cohn & Kottkamp, 1993). The remainder of Phase One of the Cooperative Reading Project should thus provide considerable further insight into the process of collaborative instructional refinement with experienced teachers.

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Appendix 1
Sample Responses of Students' Awareness of Conditional Knowledge

High Awareness

[2nd grade Caucasian girl. The students were drawing pictures of Kenyan towns and cities.]

I: Why would you want to know about Africa?

S: Well, they have a neat language there. And there's lots of neat stuff about there. They wear different clothes sometimes....Like patterns and lines and stuff like that.

I: Well, when would you need to know about Africa?

S: When I would go on a safari there. I'd need to say, "How much is that?" and "How much is that?" and "How much does a school cost?"....I'd like to camp there. See what it looks like inside their houses....What kind of toys they have. How they make their clothing. And I'd like to taste some more of their food....

(CRP; Franz, 10/30/92)

Medium Awareness

[4th grade Caucasian girl. This student had worked with a partner on a computer simulation in which they tried to track a criminal around the world, thus requiring application of research skills, such as using the world almanac, and geography skills.]

I: Why might you want to know about maps and money and stuff like that?

S: 'cause in case you go there!

I: Any other reasons?

S: 'cause I want to....I want to be a teacher when I grow up....When I be a teacher, I can get one of those [computer simulations] and I can tell my students to go back and play it, and help 'em out with it.

I: Any other times you'd want to know about money and countries and stuff like that?

S: No.

(CRP; Harris, 10/28/92)

Low Awareness

[3rd grade Latino boy. The students had worked in pairs to give peer feedback on writing based on a format which they had on cards.]

I: Why might it be important to do conferencing and have book talks?

S: So you could be a better reader and a better writer....If you read and write then you can spell better and when you grow up you could be a good writer.

I: Oh, okay. When do you need to know about becoming a better reader or writer?

S: When you're young, so when you grow up you can be a really good writer.

(CRP; Sampson, 12/01/92)